TABLE THREE
INTRASTATE, INTEREXCHANGE CALLS ORIGINATING ON GTE THAT TERMINATE IN VARIOUS LOCAL EXCHANGE SYSTEMS
(PERCENT)

Terminating Local Exchange Company	California	Florida	Texas
Bell Operating Company	78.0	61.9	70.2
GTE Operating Company	20.5	0.1	19.6
Independent LEC A		30.2	
Independent LEC B		5.7	
Independent LEC C		1.1	
Independent LEC D			3.0
Independent LEC E			1.6
Independent LEC F	0.5		
Independent LEC G		0.5	
Independent LEC H	0.4		
Other	0.6	0.7	5.5

Note: Percentages based on access minutes.
Source: GTE, Carrier Analysis Billing System, Intrastate InterLATA Terminating Point Summary, 1993.

The second Commission decision criterion in the AT&T proceeding related to the supply elasticities of the leading carriers. After the entry of GTE Long Distance into interLATA long distance services, supply elasticity cannot be less than that considered by the Commission in its October 1995 non-dominance order. That elasticity cannot conceivably be reduced by GTE Long Distance's entry.

Similarly, the elasticities of demand for long-distance service by residential and business customers likely could not become any less by entry. There is, for example, no argument that "churn" among residential customers would be reduced or that business

customers would become less sophisticated in their purchases in the process of considering other carriers just because of GTE Long Distance's increased presence.[62]

Given that market power is price-setting power, by definition, the most important Commission criteria for the establishment of a finding of non-dominance are those associated with carrier price behavior. A comparison of GTE Long Distance's prices with those of AT&T indicates that GTE Long Distance's behavior is not going to involve increasing rivals' costs, and thus prices, or involve setting higher (less competitive) relative prices. Table Four presents AT&T's prices at the time of GTE Long Distance's entry (March 1996)[63] and GTE Long Distance's prices as of that date. These prices for the same calls show that GTE Long Distance's entry prices generally were below those of AT&T.[64] (An examination of current tariffs reveals the same pattern.) Given that GTE Long Distance likely will continue to be a reseller of out-of-region long-distance services, its costs will exceed those of AT&T and, thus, its price-cost margins cannot be greater than those of AT&T. Therefore, GTE Long Distance's margins are less than the Commission's threshold levels for firms to be considered "non-dominant."

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[62] The Commission also considered AT&T's cost structure, size, and resources, but was not explicit. No threshold values were provided, nor were theories of dominance determined by scale of enterprise developed by the Commission. But taking AT&T's 1994 revenues and earnings threshold levels, the corresponding values for GTE show that it could not be considered dominant. GTE's total revenues are less than one-third of AT&T's revenues, and its net income is approximately one-half that of AT&T (STATISTICS OF COMMUNICATIONS COMMON CARRIERS, 1994/1995 edition, Table 1.1).

[63] GTE Long Distance's entry in California was July 1996. AT&T's intrastate Florida were effective as of April 13, 1996.

[64] The only exception is for intrastate rates in Texas. Here GTE's rates do not depend on mileage, and as a consequence, GTE's rates tend to be higher than AT&T's for relatively short distance calls and lower for relatively longer distance calls.

TABLE FOUR
COMPARISON OF AVERAGE MTS PRICES FOR
GTE LONG DISTANCE AND AT&T
(DOLLARS PER MINUTE)

	GTE Long Distance	AT&T
Standard MTS Plans		
Interstate	0.251	0.266
Intrastate:		
Texas	0.275	0.257
Florida	0.234	0.259
California	0.127	0.126
Discount MTS Plans[1]		
Interstate	0.188	0.199
Intrastate:		
Texas	0.206	0.193
Florida	0.175	0.195
California	0.095	0.095

Note:

1/ GTE's discount plan is "Easy Savings Plan" and AT&T's discount plan is "True Reach." Prices in both discount plans are 25 percent less than the respective standard MTS rates.

Sources:

Prices are calculated from AT&T and GTE Long Distance tariffs. Calls are assumed to be made according to the following time-of-day distribution: 85 percent day, ten percent evening, and five percent night/weekend. The following mileage distribution is assumed for interstate calls: six percent of calls 0-55 miles, eight percent of calls 56-292 miles, six percent of calls 293-430 miles, thirty percent of calls 431-925 miles, thirty-three percent of calls 926-1,910 miles, and seventeen percent of calls 1,911 to 3,000 miles. For intrastate calls, this same distribution was applied according to the mileage bands in the carriers' intrastate plans. For example, Florida has seven mileage bands, the longest being 431-624 miles. The interstate mileage distribution was scaled so that 100 percent of calls were less than 624 miles, so that the intrastate distribution of calls has the same shape as the interstate bands of less than that distance. The duration of calls is assumed to be five minutes.

These offer prices are the highest likely to be realized. There may be more likely prices at lower levels. In order to overcome first-mover advantages held by AT&T and other incumbent interexchange carriers, GTE Long Distance currently offers residential and business customers price reductions to capture market share. First-mover advantages over later entrants, based on first-movers retaining large market share positions, are well established in economics in both theoretical models and empirical analysis.[65] As Carlton and Perloff discuss: "consumer goodwill toward established brand names may make it more difficult for a new brand to enter. . . . Later firms face higher marketing costs because they must compete against the first [firm]. If the presence of the incumbent raises the marketing costs of the second firm to enter, then the first firm has a permanent advantage – a long-run barrier to entry – and can maintain high prices."[66] In the current context, GTE Long Distance must make substantial marketing investments and offer price discounts in order to overcome the substantial brand names of AT&T, MCI, and Sprint. GTE Long Distance currently offers discounts to residential customers of (1) ten percent off its standard MTS rates for customers with monthly bills of ten to twenty-five dollars and (2) twenty five percent for residential customers with larger monthly bills, but these do not differ from those of AT&T, and so cannot constitute a showing of predation. Thus, conditions are conducive to lower, not higher, GTE Long Distance prices which could not be associated with policies of an entrant to "leverage" its local exchange incumbency.

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[65] Scherer, F. and Ross, D. (1990), INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE, 3rd ed., Boston, MA: Houghton Mifflin Company, pp. 584-592; Shy, O. (1995), INDUSTRIAL ORGANIZATION: THEORY AND APPLICATIONS, Cambridge, MA: MIT Press, p. 188.

[66] Carlton, D. and Perloff, J. (1994), MODERN INDUSTRIAL ORGANIZATION, New York, NY: Harper Collins, at 113.

A comparison of the long-distance prices of GTE and AT&T suggests an additional step in the analysis of the firms' pricing and sales levels strategies. That is, a summary statistic of firm strategy known as the "conjectural variation" can be calculated which characterizes a firm's competitive interactions relative to rivals in setting price and/or sales levels. The economic interpretation of firms' conjectural variations (conventionally denoted as "v") can be summarized as follows:

- *Firms' conjectural variations equal zero* – Each firm's price-cost margin depends only on its share and the market demand elasticity in the relevant market. This result, named for Augustin Cournot (a nineteenth century French mathematician), is based on the assumption that the firm assumes other firms will not change their sales levels in response to a change in its sales level. The resulting convergent equilibrium price exceeds the competitive price but is less than the monopoly price.
- *Firms' conjectural variations are positive* – Each firm assumes others will change their sales levels in the same direction as a change in its sales level. For example, if one firm reduces its sales level, others also will reduce their sales levels. Such changes in sales levels cause price-cost margins to increase towards monopoly levels.
- *Firms' conjectural variations are negative* – Each firm assumes others change their sales levels in the opposite direction of a change in its sales level. For example, if one firm reduces its sales level, it assumes that others increase their sales levels in a competitive response to capture share. Such changes in sales levels cause price-cost margins to decrease towards competitive levels; where exact canceling takes place, the v term equals minus one and price-cost margins equal zero as in perfect competition.

A firm's conjectural variation can be calculated with data on its price-cost margin, market share, and the elasticity of market demand.[67] To derive average estimates for AT&T's conjectural variations, individual estimates were calculated for all domestic MTS, outbound WATS, inbound WATS, and virtual network services offered by that carrier for each year from 1988 to 1994. Those computations yielded a sample of thirty-three observations for AT&T.[68] (Similar calculations for MCI and Sprint also were performed.) The average conjectural variations for these carriers (with confidence or "significance" intervals) are shown in Table Five.[69] The AT&T estimated v indicates a minimal response in MCI and Sprint's sales levels in particular products; specifically, the hypothesis of no response cannot be rejected. (MCI and Sprint's conjectural responses to changes in sales levels are large and positive, however, indicating that they anticipate responses in the same direction following changes in their sales levels.)[70] AT&T's conjectural variation implies that if the firm were to decrease its sales level, MCI and Sprint would increase their combined sales levels by seven percent of that level. The conjectural variation term is

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[67] A firm's conjectural variation equals [(price - marginal cost) (demand elasticity) / (price) (market share)] minus one. *See, e.g.*, Brander, J. and Zhang, A. (1990), *Market Conduct in the Airline Industry: An Empirical Investigation*, RAND JOURNAL OF ECONOMICS, vol. 21, pp. 567 to 583; Martin, S. (1993), ADVANCED INDUSTRIAL ECONOMICS, Oxford, UK: Blackwell, chapter two.

[68] For example, one observation is for AT&T's provision of MTS in 1988, while a second observation is for provision of virtual network services in 1988, and so forth.

[69] Additional computations were undertaken based on the assumption that MCI and Sprint non-access costs at the margin were twice those of AT&T. The average levels of v decreased by 0.23 and 0.29 for MCI and Sprint, respectively. Computations were made assuming that MTS and WATS price elasticities were the same. Those resulted in decreases of v of 0.12, 0.37, and 0.39 for AT&T, MCI, and Sprint, respectively. If both extreme assumptions were to hold, the estimate of average v for AT&T would still not differ from zero, nor for MCI and Sprint would it be less than one.

[70] Since the Commission has not found MCI and Sprint to be dominant, their conjectural variations also must be indicative of non-dominance.

negative but not different from zero (i.e., Cournot), indicating that AT&T acted as if it did not expect responses from the other companies for its price or sales initiatives.

TABLE FIVE
CONJECTURAL VARIATIONS OF THE
THREE MAJOR INTEREXCHANGE CARRIERS

Carrier	Average	95 Percent Confidence Interval
AT&T	-0.07	(-0.17, 0.02)
MCI	1.91	(1.63, 2.18)
Sprint	2.54	(2.31, 2.78)

Sources:

Prices are calculated from AT&T, MCI, and Sprint tariffs by HTL Telemanagement, Ltd. according to the same calling pattern assumptions used in Table One.

Marginal costs are calculated from FCC Monitoring Report (1996), Table 35 and the Direct Testimony of John Sumpter on Behalf of AT&T Communications of California, Inc., Application of AT&T Communications of California, Inc. (U 5002 C) for authority to Provide Intrastate AT&T 800 READYLINE Service, June 18, 1990.

Market shares are from FCC, Statistics of Communications Common Carriers, 1994/1995 edition and Multinational Business Services, Inc. (1990), *Interexchange Competition in the Price Cap Era: A Quantitative Analysis by Major Carrier, Service, and Market Basket* (Washington, D.C.) at B-1 to B-8. Market shares after 1990 for specific for MTS, inbound and outbound WATS, and virtual network services are estimated from a regression model in which HHI values for these specific classes of service have been regressed for long-distance market shares. This is necessary because company-specific data by class of service are available only for 1985 to 1990.

Market demand elasticity equals -0.75. See Taylor, L (1994), TELECOMMUNICATIONS DEMAND IN THEORY AND PRACTICE, Kluwer Academic Publishers, chapter six.

Although no precise estimate of GTE's conjectural variation is available, that value likely approximates the observed values for MCI and Sprint given (1) GTE's prices as shown in Table Four, (2) its small market share, and (3) its higher marginal costs, due to purchasing services as a reseller rather than owning a nationwide, fiber-optic network. A

positive conjectural variation in the range from two to three constitutes a direct refutation of any claim that GTE's behavior could be characterized as predatory. A predatory firm would have a high negative conjectural variation by the very nature of predatory actions – it could not hold expectations that rivals would match changes in its sales levels. Thus GTE's price and sales level strategy, as summarized by the conjectural variation, is not consistent with predatory behavior.

Moreover, GTE's long-distance prices also do not reflect a leveraging strategy based on discrimination. If GTE were to attempt discriminatory actions against AT&T to reduce that other carrier's quality relative to its own, it would have a conjectural variation in the range around that found for AT&T directly. This would enable GTE to charge higher prices than AT&T, and the more extensive the leveraging, the higher would be GTE's prices relative to AT&T. But GTE's price offerings as reported in Table Four are to the effect that it generally offers lower prices than AT&T at levels inconsistent with any leveraging claim.

This information on the conjectural variations of GTE relative to the major interexchange carriers provides a first test of hypotheses related to actual GTE behavior on entry into interLATA long-distance markets. The pattern of behavior revealed in these conjectural variations is not consistent with predatory and leveraging behavior with which the Commission might be concerned. GTE's pattern of entry behavior on pricing and sales offerings provides no basis for the claim that GTE operating companies should be deemed dominant because of predatory or leveraging behavior.

III. CONCLUSIONS

This Notice raises as a central issue the theoretical cases in which independent local exchange companies, such as the GTE operating companies, could leverage "bottleneck" facilities so as to achieve positions of dominance in the provision of

interexchange services. One such case has the long-distance service price level too high (from raising rivals' costs) while the other has that price level too low (from cross subsidizing long distance so as to predate rivals). After reviewing the theoretical arguments and empirical evidence on these cases, the conclusion is that successful leveraging of market power to long distance cannot be achieved by GTE. Therefore, the known costs of firm inefficiencies resulting from a decision to classify GTE as a dominant interexchange carrier outweigh the non-existent benefits. The Commission should declare GTE to be non-dominant and remove the separate affiliate requirement for its provision of interexchange services. This policy would best serve the interests of consumers who currently pay non-competitive rates for long-distance services.

This is because the concerns evidenced in the Notice regarding leveraging ultimately turn on the potential for horizontal market power in long-distance markets because of the entry of GTE Long Distance. The concerns hardly survive their statement. Whatever the alleged mechanism for leveraging, the end result must be the establishment of market dominance in interexchange services. That dominance now exists collectively for the largest carriers offering long-distance services.[71] Prices paid by consumers for these services are not competitive now because these facilities-based carriers have established price strategies that enable the maintenance of price-cost margins well in excess of those that can be associated with competitive market behavior. This has occurred despite the fact the Commission has ruled that all large, facilities-based carries are non-dominant. Given first-mover advantages held by these carriers, caused by large, long-established (ten year) market shares, nationwide fiber-optic networks, and brand-name recognition, the likelihood that an existing switchless reseller, such as GTE Long

[71] MacAvoy, Paul (1996), THE FAILURE OF ANTITRUST AND REGULATION TO ESTABLISH COMPETITION IN LONG-DISTANCE TELEPHONE SERVICES (AEI Press and MIT Press, 1996).

Distance, could capture share from these carriers sufficient to establish market dominance is less than remote.

My conclusions on the non-dominance of GTE follow from application of the criteria used by the Commission in its non-dominance finding for AT&T. That finding was based on specific criteria such as market share, carrier and market elasticities, and price behavior. GTE Long Distance's share in the relevant national market likely will not exceed four percent, substantially less than AT&T's 55 percent share, and market supply and demand elasticities will not decline because of this company's entry. GTE Long Distance's current prices are somewhat lower than those of AT&T's, caused by the necessity to overcome incumbent carriers' first-mover advantages, but the difference cannot be "predation." On the basis of these findings, based on the Commission's own precedents in the determination of market dominance of other carriers, the GTE operating companies must be classified as non-dominant carriers.

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Professor and Associate Professor of Management
Massachusetts Institute of Technology, 1966 - 1974

Assistant Professor of Economics
Massachusetts Institute of Technology, 1963 - 1965

Assistant Professor of Business Economics
Graduate School of Business
University of Chicago, 1960 - 1963

Corporate Appointments and Memberships:

Board of Directors, and Member of the Audit Committee, Open Environment Corporation, 1993 -

Board of Directors, Chairman of the Executive and Audit Committees, Alumax Corporation, 1993 - ; Successor corporation to AMAX Corporation, 1978 - 1993

Board of Directors, Member of the Executive Committee and Chairman of the Trusts Committee, the Chase Manhattan Bank and Chase Manhattan Corporation, 1992 -

Board of Directors and Member of the Strategy and Pension Committees, Lafarge Corporation, 1993 -

Former Board of Directors, American Cyanamid Company, 1977 - 1980; 1986 - 1994

Former Board of Directors, Gleason Corporation, 1987 - 1993

Former Board of Directors, AMAX Gold, Incorporated, 1992 - 1993

Former Board of Directors, Combustion Engineering, Incorporated, 1980 - 1989

Former Board of Directors, Colt Industries, Incorporated, 1984 - 1988

Former Board of Directors, United States Synthetic Fuels Corporation, 1985 - 1986

Former Board of Directors, Air One, Incorporated, 1983 - 1984

Former Board of Directors, The Columbia Gas System, 1977 - 1978

University and Non-Profit Appointments and Memberships:

Adjunct Scholar, American Enterprise Institute for Public Policy Research, 1977 - 1985. Chairman of Academic Advisory Board, the Telecommunications Deregulation Project, 1992 -

National Academy of Sciences Panel on the Government's Role in Civilian Technology, 1991 - 1992

Elected Fellow, The American Academy of Arts and Sciences, 1981 - ; Member, Candidate Selection Committee on Public Policy and Business Administration.

President's National Productivity Advisory Committee, 1982 - 1984

Member of the Council, The Administrative Conference of the United States, 1980 - 1981

American Bar Association Commission on Law and the Economy, 1977 - 1981

Elected Alumni Member, Board of Trustees, Bates College, 1977 - 1982

Massachusetts Public Power Study Commission, 1974 - 1975

Founding Member, Energy Policy Studies Group, MIT Energy Laboratory, 1974 - 1975

Brookings Institution Adjunct Fellow, Program in the Regulation of Economic Activity, 1970 - 1971

Founding Member of the Council of Economic Advisers, State Government of New York, 1969 - 1972

Founding Editor, *The Bell Journal of Economics and Management Science,* 1970 - 1975

Member of Presidential Task Force on Revision of the Antitrust Laws (the "Neal Task Force"), 1967 - 1968

Staff Economist, Council of Economic Advisers, the Johnson Administration, Executive Office of the President, 1965 - 1966

Law and Economics Fellow, Ford Foundation Faculty Research Fellow, University of Chicago Law School, 1962 - 1963

Publications-
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Prepared Direct Testimony before the Federal Energy Regulatory Commission on behalf of Texas Eastern Transmission Corporation: *Analysis of market conditions in the natural gas industry for the purpose of evaluating gas purchase prudency issues.* Docket No. RP93-125-000, August, 1993.

Prepared Direct Testimony before the Federal Energy Regulatory Commission on Behalf of Texas Eastern Transmission Corporation: *Analysis of the supply and demand conditions within which Texas Eastern purchased gas over the period 1978-1993.* Docket No. RP85-177-102, et al, July, 1993.

Report: *Analysis of the Effects of Mojave's Pipeline Extension on Gas Transportation*

Costs and Rates in the State of California, for Pacific Gas and Electric Company, FERC Docket No. CP93-258-000, April 1993.

Member of the Federal Energy Regulatory Commission Task Force: *On Developing A Framework For Assessing Competition In Natural Gas Transportation* (The Commissioner Terzic Task Force) 1992-1993 as representative for the Interstate Natural Gas Association of America.

Economic Analysis of Refiners' Passthrough of the Citronelle (Oil Field Price Control) Exception Relief (with Joseph P. Kalt). Statement to the Special Refund Procedures: The 341 Tract Unit of the Citronelle Field, LFX-0008, Office of Hearings and Appeals, US Department of Energy (July, 1992)

Prepared Direct and Rebuttal Testimony, Matter of Arbitration involving ProGas Limited and Texas Eastern Transmission Corporation: *Economic analysis regarding the redetermination of pricing provisions in a gas purchase contract*, 1992.

Prepared Direct Testimony before the Federal Energy Regulatory Commission on behalf of Texas Eastern Transmission Corporation: *Analysis of economic issues related to pipeline market power in Texas Eastern's service markets in the northeast.* FERC Docket No. RS92-11-000 (June, 1992)

Research and Deposition Testimony: *Assessment of Alternative Techniques for Valuing Natural Gas for Severance Tax Purposes, for Marathon Oil* Company, before the State of Alaska, Department of Revenue, Docket No. 89314, 1990

Testimony and Report, *Competition and Public Policy: Economic Analysis of Unitel Communication, Inc.'s Application to Provide Public Long-Distance Telephone Service in Canada*, for British Columbia Telephone Company, before the Canadian Radio - Telecommunications Commission, 1990 - 1991

Prepared direct and rebuttal testimony: *Economic Analysis of Market Power in the Natural Gas Pipeline Industry* for Texas Eastern Transmission Company in Equitrans, Inc. v. Texas Eastern Transmission Corporation. Federal Energy Regulatory Commission Docket No. CP90-2154-000, 1991 - 1992

Comments on FERC Notice *Regarding Pipeline Service Obligations.* Submitted to the Federal Energy Regulatory Commission on behalf of the Panhandle Eastern Corporation Pipeline Group, April 1991

Statement: *Antitrust Issues in the Atlantic City Casino Industry*, BPHC Acquisition Inc., et al. and BPHC Parking Corp. v. Boardwalk Properties, Inc., Penthouse International, Ltd., and Donald J. Trump, et al., 1990 - 1992

Economic Analysis and Witness Testimony on Antitrust Issues Involving Dominant Firm Conduct in the Movie Distribution Industry. U.S. vs Syufy Enterprises, before the U.S. District Court in San Francisco, 1988

Airline Pilots Association vs Trans World Airlines. *An Assessment of the Financial Status of Trans World Airlines*, before the Supreme Court of the State of New York, December, 1988

Memorandum for the Templeton Foundation *On Establishing a World Class Business School at Oxford University* by Paul W. MacAvoy, Merton Peck and Richard West (1989)

Testimony and Report on *the Effects of Bypass of the Gas Distribution Pipelines in the California Natural Gas Retail Market*, for Southern California Gas Company, before the Federal Energy Regulatory Commission, 1987 - 1988

Research and Testimony on *the Economic Effects of Airlines' Computer Reservation Systems*, for US Air et al. vs American and United Airlines, 1986 - 1988

Research on the *Competitive Effects of Automobile Company Joint Ventures*, for Chrysler Corporation, to be presented to the U.S. District Court, District of Columbia, in Chrysler Corp. vs General Motors - Toyota, 1985 - 1986

Research on *the Economic Effects of the Sale of Conrail to the Norfolk Southern Railway*, for the Norfolk Southern Railway, 1985 - 1986

Economic testimony regarding the Impact of Imports of Aramid Fibers on U.S. Domestic Kevlar Sales, for Akzo Chemicals Corporation, before the U.S. International Trade Commission in Investigation No. 337-TA-194, 1985 -1986

Testimony on the *Competitive Effects of the SFSP merger*, for Santa Fe-Southern Pacific Corporation, before the Interstate Commerce Commission, in ICC Docket 30400, 1985

Testimony in Department of Transportation hearings regarding *Transfer of Pan American Airways Pacific Routes to United Airlines*, for Eastern Airlines, 1985

Testimony before the U.S. Postal Rate Commission regarding *Cost Allocation Techniques in Setting Postal Rates* for the Magazine Publishers Association, 1984 - 1985

Testimony regarding the *Rate Structure and Long Distance Competition in New England Telephone Service*, before the State of Maine Public Utilities Commission, Docket No. 83-213, 83-179, 1984

Economic Analysis of *Pricing Strategies in Regulated Long Distance Telephone Service Markets*, for American Telephone and Telegraph Company in U.S. vs. AT&T Co., 552 F. Supp. 131 (D.D.C. 1982) 1978 - 1982

Consultant to the Regulatory Reform Task Force of the Economic Council of Canada, 1979 - 1981

Consultant to the Federal Energy Office on econometric modeling of energy markets, 1973 - 1975

Testimony on the El Paso-Pacific Northwest gas pipeline merger, for the U.S. Senate Commerce Committee, Seattle, Washington, 1971

Project administrator for the Ministry of Finance of the Republic of Indonesia, on *the Efficiency of Nationalized Industry* (on contract from the Harvard University Development Advisory Service), 1971 - 1974

Consultant to the Economic Planning Board of Puerto Rico, on *Large-scale Energy Complexes*, 1970 - 1971

Consultant to the State Department, on *Large-scale Desalting in Israel*, 1966 - 1967

Consultant to the Ford Foundation, *on the proposal for a Domestic Non-profit Television Satellite System*, 1966

STATUS OF GTE NEGOTIATIONS

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
ALASKA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
ALABAMA			
ACSI	03/27/96	08/09/96	09/03/96
AT&T	05/15/96	09/27/96	10/22/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
ARKANSAS			
AT&T	06/17/96	10/30/96	11/24/96
BROOKS FIBER (BFC)	05/20/96	10/01/96	10/26/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
ARIZONA			
GST	05/08/96	09/19/96	10/14/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
CALIFORNIA			
CONTINENTAL CABLEVISION	05/24/96	10/06/96	10/31/96
COX	04/17/96	08/30/96	09/24/96
GST	05/17/96	09/28/96	10/23/96
ICG	02/08/96	06/22/96	07/17/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
MCI-METRO	02/08/96	06/22/96	07/17/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT (Interconnect)	04/19/96	09/01/96	09/26/96
SPRINT (Resale)	02/08/96	06/22/96	07/17/96
WINSTAR	04/18/96	08/31/96	09/25/96
FLORIDA			
MCI	04/04/96	08/17/96	09/11/96
MCI-METRO	02/08/96	06/22/96	07/17/96
NATIONAL TEL	03/08/96	07/21/96	08/15/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
TCG	03/02/96	07/15/96	08/09/96
TELEPHONE COMPANY OF CENTRAL FLORIDA	07/11/96	11/23/96	12/18/96

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
TIME WARNER	02/08/96	06/22/96	07/17/96
WINSTAR WIRELESS	03/18/96	07/31/96	08/25/96
HAWAII			
GST	05/08/96	09/19/96	10/14/96
ICI	07/19/96	12/01/96	12/26/96
LONG DISTANCE USA	04/12/96	08/25/96	09/19/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT (Resale)	04/10/96	08/23/96	09/17/96
SPRINT (Interconnection)	04/19/96	09/01/96	09/26/96
TIME WARNER	03/12/96	07/25/96	08/19/96
IDAHO			
GST	05/08/96	09/19/96	10/14/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
ILLINOIS			
CONSOLIDATED COMMUNICATIONS	05/07/96	09/19/96	10/14/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
SPRINT	04/19/96	09/01/96	09/26/96
TCG	03/02/96	07/15/96	08/09/96
TIME WARNER	03/12/96	07/25/96	08/19/96
INDIANA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
TIME WARNER	03/12/96	07/25/96	08/19/96
IOWA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
KENTUCKY			
ACSI	03/27/96	08/09/96	09/03/96
AT&T	05/15/96	09/27/96	10/22/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
MICHIGAN			
ICI	07/19/96	12/01/96	12/26/96

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
TIME WARNER	03/12/96	07/25/96	08/19/96
MINNESOTA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
MISSOURI			
DIAL US	04/05/96	08/18/96	09/12/96
DTI	06/22/96	11/04/96	11/29/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
NEBRASKA			
CABLE USA	04/08/96	08/21/96	09/15/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96

Company	Negotiation Start Date	End of 135-Day Period	End of 160-Day Period
NEVADA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
NEXTLINK	05/29/96	10/11/96	11/05/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
NEW MEXICO			
ACSI	03/27/96	08/09/96	09/03/96
GST	05/08/96	09/19/96	10/14/96
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
NORTH CAROLINA			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96
PREFERRED CARRIER SERVICES	05/20/96	10/02/96	10/27/96
SPRINT	04/19/96	09/01/96	09/26/96
TIME WARNER	04/24/96	09/06/96	10/01/96
US LEC of North Carolina	06/17/96	10/30/96	11/24/96
OHIO			
ICI	07/19/96	12/01/96	12/26/96
MCI	04/04/96	08/17/96	09/11/96